

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Manfred Jönsson

Examiner: Unassigned

Serial No.: Unassigned

Art Group: Unassigned

Filing Date: September 22, 2003

Docket No. 150-128

Title: A Coin Discriminating Device and Method and A Coin Handling Machine
Including Such A Device and Method

Hon. Commissioner of Patents and Trademarks
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

Prior to examination of the above-identified patent application which is being filed concurrently herewith, please amend the application as follows:

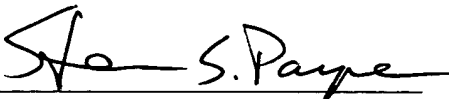
IN THE CLAIMS

Please cancel claims 1-5 without prejudice or disclaimer. In addition please add new claims 6-10 which are attached hereto.

REMARKS

Prior to examination, the claims have been amended to place them in proper form. If the Examiner believes that a telephone interview may expedite the prosecution of the Application, the Examiner is invited to contact the below attorney at the indicated telephone number.

Respectfully submitted,

By: 

Steven S. Payne

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Date: September 22, 2003

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6. A coin discriminating device, comprising:

a sensor electrode;

an oscillator coupled to the sensor electrode, the oscillator being capable of generating an output signal with a frequency which is capacitively controllable;

a frequency detector adapted to receive the output signal from the oscillator as well as a reference signal from a reference oscillator so as to provide an output which comprises a difference between aforesaid signals for detecting a frequency deviation in said oscillator output signal, caused by a variation in capacitance at said sensor electrode when a coin is positioned in a vicinity of the sensor electrode; and

a processing device adapted to determine a thickness of said coin from the frequency deviation, wherein the coin discriminating device is arranged such that said variation in capacitance occurs in a gap between the sensor electrode and a surface of the coin, wherein the size of the gap depends on the thickness of the coin.

7. The coin discriminating device according to claim 6, wherein the

oscillator comprises a voltage-controlled oscillator.

8. A method of determining a thickness of a coin by detecting and evaluating a variation in capacitance, comprising the steps of:

detecting the variation in capacitance between a sensor electrode and a surface of the coin,

wherein said variation in capacitance occurs in a gap between a sensor electrode and the surface of the coin, and

wherein the size of the gap depends on the thickness of the coin.

9. The method according to claim 8, further comprising the steps of:

generating a first signal having a frequency which depends on said variation in capacitance;

generating a second signal having a fixed reference frequency;

producing a value representing a difference in frequency between the first and second signals; and

from said difference in frequency, determining the thickness of the coin.

10. A coin handling machine, comprising:

a coin inlet;

a coin feeder;

a coin discriminator;

a handling device, wherein the coin discriminator is coupled to the handling device and is adapted to determine a type, identity or denomination of respective coins received from the coin feeder;

wherein the coin discriminator comprises:

a sensor device capable of measuring a variation in capacitance between a sensor electrode and a surface of an individual coin, wherein said variation in capacitance occurs in a gap between the sensor electrode and a surface of the coin, said size of the gap depending on the thickness of the coin;

a signal generating device capable of producing a signal representing said variation in capacitance; and

a processing device capable of determining a thickness of the coin from said signal.